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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,920	07/02/2001	Jung-Hong Kao	M-12277 US	9597

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EXAMINER	
LIEN, TAN	
ART UNIT	**PAPER NUMBER**
2141	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/898,920	KAO ET AL.	
	Examiner	Art Unit	
	Tan Lien	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTIONS

Specification

The disclosure is objected to because of the following informalities: FIG. 3f on page 7 under the Description of Drawings is mentioned in the specification but the actual figure is not in the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 24-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer program as claimed in claims 24-26 is considered non-statutory subject matter since it does not fall into any of the following statutory categories: new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.

The Examiner will consider the computer program as claimed in claims 24-26 to be run or stored in a computer readable medium in order of it to be statutory and useful.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8, 13-16, 19 and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Mor et al (US PGPub 2002/0018481) and Request for Comments (RFC) 2892, which is incorporated by reference stated on page 1 paragraph [0003] second sentence of Mor.

Claim(s) 1, 24, 27: Mor and RFC 2892 teach a method for initializing a node in a network, the network including a plurality of nodes connected by first and second rings formed by two or more transmission media, the method comprising:

connecting the node to each of the first and second rings (paragraph [0024] Mor);

setting a locally significant ring identifier (FIG. 1 of Mor; wherein the ring is attached locally to nodes A-D and the ring identifier is significant only to those attached nodes and insignificant to the other nodes attached to the Subnet) for each of the first and second rings without concern for the ring identifier established by any other node in the network for either of the two rings (page 15,

section 4.2.2 of RFC 2892; wherein each node sets a ring indicator value of 0 or 1 to the usage packet, control packet, and topology packet after the Time to Live (TTL) field without concern for the ring identifier established by the other nodes);

discovering the locally significant ring identifiers for each other node coupled to the network (paragraph [0004] of Mor);

storing the locally significant ring identifiers and associated node addresses for each node in the network; and

determining routing decisions for one or more packets received at the node along each of the first and second rings using the locally significant identifiers associated with a node that sent the packets (paragraph [0030] of Mor; wherein the topology packets discover the network topology and store the ring identifiers and node addresses in a routing table for routing decisions. The routing table is built by one of the routing protocols OSPF or RIP).

Claim(s) 2: Mor and RFC 2892 teach the method of claim 1, wherein

the step of storing further comprises storing the locally significant ring identifiers and associated node addresses for each ring in a table (paragraph [0030] of Mor; wherein the table is the routing table).

Claim(s) 3: Mor and RFC2892 teach the method of claim 2, wherein the step of discovering the locally significant ring identifiers includes

generating a topology packet including the locally significant identifier for a ring and the address of the node and sending the topology packet to a next node in the network (paragraph [0004] of Mor; wherein each node generate a topology packet and send it to each node on the rings);

receiving a topology packet back on the ring that includes an address for each node on the network coupled to the ring including a locally significant identifier for the ring for each node (paragraph [0004] of Mor; wherein the topology packet comes back to the originating node and use the information appended by the other nodes to build a topology map of the ring); and

storing the locally significant identifier for the ring for each node (paragraph [0030] of Mor; when the topology packet is building a topology map for a node, the other nodes in the network are building their topology maps for their nodes and each node has a topology map with respect to its node, and subsequently stores the topology map information in a routing table).

Claim(s) 4, 25, 28: Mor and RFC 2892 teach a method for initializing a node in a network, the network including a plurality of nodes connected by first and second rings formed by two or more transmission media, the method comprising:

connecting the node to each of the first and second rings (paragraph [0024]);

determining a ring identifier for each of the first and second rings coupled to the node after connection (paragraph [0029] of Mor; wherein the each ring is identified as inner ring or outer ring);

discovering topology information for the network including the identity of each node coupled to each ring (paragraph [0004] of Mor);

storing the topology information; and determining routing decisions for one or more packets received at the node along each of the first and second rings using the ring identifier information (paragraph [0030] of Mor; wherein the topology packets discover the network topology and store the ring identifiers and node addresses in a routing table for routing decisions. The routing table is built by one of the routing protocols OSPF or RIP).

Claim(s) 5: Mor and RFC 2892 teach the method of claim 4, wherein the process of determining a ring identifier for each of the first and second rings includes

generating a ring query packet that includes a proposed ring identifier for one ring (paragraph [0004] of Mor; wherein the topology packet is the ring query packet that each node generate and send to each of the other nodes on one of the rings. Each topology packet includes a bit field for the ring identifier);

forwarding the ring query packet to a next node on the one ring (paragraph [0004] of Mor; wherein the topology packet hops from node to node, or the packet gets forwarded by each node of the network to next node); and

waiting for a response that includes information for determining a correct ring identifier for the one ring (paragraph [0004] of Mor; wherein the node that generates the topology packet is waiting for it to come back with topology information that includes correct ring identifier for the ring so that the node can build a topology map of the ring).

Claim(s) 16, 26: Mor and RFC 2892 teaches a method for initializing a node in a network, the network including a plurality of nodes connected by first and second rings formed by two or more transmission media, the method comprising:

connecting the node to each of the first and second rings (paragraph [0024] Mor);

determining a ring identifier for each of the first and second rings coupled to the node after connection including

generating a ring query packet that includes a proposed ring identifier for one node (paragraph [0004] Mor; wherein the topology packet is the ring query packet that each node generate and send to each of the other nodes on one of the rings. Each topology packet includes a bit field for the ring identifier);

forwarding the ring query packet to a next node on the one ring (paragraph [0004] Mor; wherein the topology packet hops from node to node, or the packet gets forwarded by each node of the network to next node); and

waiting for a response that includes information for determining a correct ring identifier for the one ring (paragraph [0004]; wherein the node that generates the topology packet is waiting for it to come back with topology information that includes correct ring identifier for the ring so that the node can build a topology map of the ring); and

determining routing decisions for one or more packets received at the node along each of the first and second rings using the ring identifier information (paragraph [0030] of Mor; wherein the topology packets discover the network topology and store the ring identifiers and node addresses in a routing table for routing decisions. The routing table is built by one of the routing protocols OSPF or RIP).

Claim(s) 8, 19: Mor and RFC 2892 teach the method of claims 5, 16 wherein the step of waiting for a response includes

receiving a response from another node on the network that includes an indication of a correct ring identifier for the one ring and setting the ring identifier for the one ring to the correct ring identifier (paragraph [0004]; wherein when the query packet request for topology information which includes ring identifier, the

discovery packet circles around the ring through other nodes, and one of the other nodes or another node responds with a correct ring identifier for the one ring it is circling in. And when a new node is installed, the other nodes has to send out packets to discover the new node with the correct address and ring identity information, so what the new node discovers and wait for response the other nodes have to discover and wait for responses too).

Claim(s) 13: Mor and RFC2892 teach the method of claim 4, wherein the step of determining a ring identifier for each of the first and second rings coupled to the node after connection includes

setting a locally significant ring identifier (FIG. 1 of Mor; wherein the ring is attached locally to nodes A-D and the ring identifier is significant only to those attached nodes and insignificant to the other nodes attached to the Subnet) for each of the first and second rings without concern for the ring identifier established by any other node in the network for either of the two rings (page 15, section 4.2.2 of RFC2892; wherein each node sets a ring indicator value of 0 or 1 to the usage packet, control packet, and topology packet after the Time to Live (TTL) field without concern for the ring identifier established by the other nodes);

discovering the locally significant ring identifiers for each other node coupled to the network (paragraph [0004] of Mor);

storing the locally significant ring identifiers and associated node addresses for each node in the network; and

where the determining step includes determining routing decisions for one or more packets received at the node along each of the first and second rings using the locally significant identifiers associated with a node that sent the packets (paragraph [0030] of Mor; wherein the topology packets discover the network topology and store the ring identifiers and node addresses in a routing table for routing decisions. The routing table is built by one of the routing protocols OSPF or RIP).

Claim(s) 14: Mor and RFC2892 teach the method of claim 13, wherein

the step of storing further comprises storing the locally significant ring identifiers and associated node addresses for each ring in a table (paragraph [0030] of Mor; wherein the table is the routing table).

Claim(s) 15: Mor and RFC2892 teach the method of claim 14, wherein the step of discovering the locally significant ring identifiers includes

generating a topology packet including the locally significant identifier for a ring and the address of the node and sending the topology packet to a next node in the network (paragraph [0004]; wherein each node generate a topology packet and send it to each node on the rings);

receiving a topology packet back on the ring that includes an address for each node on the network coupled to the ring including a locally significant identifier for the ring for each node (paragraph [0004]; wherein the topology packet comes back to the originating node and use the information appended by the other nodes to build a topology map of the ring); and

storing the locally significant identifier for the ring for each node (paragraph [0030]; when the topology packet is building a topology map for a node, the other nodes in the network are building their topology maps for their nodes and each node has a topology map with respect to its node, and subsequently stores the topology map information in a routing table).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6, 7, 9, 10, 17, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mor and RFC 2892, which is incorporated by reference in Mor, as applied to claims 5, 9, 16 and 20 above, and further in view of Ebersole (US Patent 4,982,400).

Claim(s) 6, 17: Mor and RFC 2892 teach the method of claims 5, 16, but fails to teach the step of waiting for a response includes if a broadcast identifier is received that indicates an identity for one of the first or second rings, then assigning ring identifiers for the node in accordance with the broadcast.

Ebersole, in an analogous art, teaches ring type broadcast request or packet that includes the ring identifier in the packet for the ring the message is transiting on, and the message is in universal or local formats (col. 6, lines 20-65 and col. 13, lines 60-67). It would be obvious to one of ordinary skill in the art at the time of the invention to combine and use Ebersole's ring type broadcast messages that includes ring identifier with Mor's and RFC 2892's method of initializing a node in a network to assign a ring identifier for the node in accordance with the broadcast identifier, for the advantage of efficiently reaching to multiple nodes in the ring network (col. 13, lines 60-67).

Claim(s) 7, 18: Mor and RFC 2892 teach the method of claim 5, 16, wherein the step of waiting for a response includes

if the ring query packet is returned on the one ring (paragraph [0004]; wherein the packet comes back to the originating node),

setting the ring identifier for the one ring to the proposed ring identifier (paragraph [0004]; wherein the ring identifier bit field is the proposed ring identifier and it gets assigned to the one ring), and

setting a ring identifier for a second one of the first and second rings to a complementary value (page 15, section 4.2.2; wherein if the first ring gets the 0 value the complementary value 1 is assigned to the second ring). Mor and RFC2892, however, fail to teach broadcasting the ring identifier on the one ring.

Ebersole, in an analogous art, teaches ring type broadcast request or packet that includes the ring identifier in the packet for the ring the message is transiting on, and the message is in universal or local formats (col. 6, lines 20-65 and col. 13, lines 60-67). It would be obvious to one of ordinary skill in the art at the time of the invention to combine and use Ebersole's ring type broadcast messages that includes ring identifier with Mor's method of initializing a node in a network to assign a ring identifier for the node in accordance with the broadcast identifier, for the advantage of efficiently reaching to multiple nodes in the ring network (col. 13, lines 60-67).

Claim(s) 9, 20: Mor and RFC 2892 teach the method of claims 5, 16, wherein the step of waiting for a response includes

receiving a ring query packet on the one ring from another node (paragraph [0004] of Mor; wherein when the query packet request for topology information which includes ring identifier, the discovery packet circles around the ring through other nodes, and one of the other nodes or another node responds with a correct

ring identifier for the one ring it is circling in. And when a new node is installed, the other nodes has to send out packets to discover the new node with the correct address and ring identity information, so what the new node discovers and wait for response the other nodes have to discover and wait for responses too); and

evaluating the received ring query packet to determine if the query should be forwarded on the one ring (pages 28-29, section 6, paragraph 6 of RFC2892; wherein evaluating the received ring query packet is comparing the rcvd_usage source address and ring ID, and forwarding the packet on the one ring accordingly).

Mor and RFC2892, however, fail to teach if the received ring query packet is to be forwarded, waiting for a broadcast identifier indicating a correct ring identifier for the one ring.

Ebersole, in an analogous art, teaches ring type broadcast request or packet that includes the ring identifier in the packet for the ring the message is transiting on, and the message is in universal or local formats (col. 6, lines 20-65 and col. 13, lines 60-67). It would be obvious to one of ordinary skill in the art at the time of the invention to combine and use Ebersole's ring type broadcast messages that includes ring identifier with Mor's method of initializing a node in a network to assign a ring identifier for the node in accordance with the broadcast identifier,

for the advantage of efficiently reaching to multiple nodes in the ring network (col. 13, lines 60-67).

Claim(s) 10, 21: Mor, RFC2892, and Ebersole teach the method of claim 9, 20 wherein the step of evaluating includes

comparing the addresses of the node that generated the received ring query packet and the node (pages 28-29, section 6, paragraph 6 of RFC2892; wherein the node is comparing the rcvd_usage source address with another node's address),

determining which node, between the node that generated the received ring query and the node, should set the ring identifier for the one ring (paragraph [0004] of Mor; wherein it is obvious to one of ordinary skill in the art at the time of the invention that the determining has to be done in order Mor's method to determine the ring identifier for the one ring), and

if the node is to set the ring identifier for the one ring, then dropping without forwarding the received ring query packet else forwarding the received ring query packet to a next node on the one ring (paragraph [0004] of Mor; wherein it is obvious to one of ordinary skill in the art at the time of the invention that if the one ring is identified by the node, then there is no point in forwarding the packet to request for information other than to waste bandwidth, and if the ring identifier

has not been determine by any node yet, it is logical to forward the query packet the other nodes to request for ring identifier information).

Claims 11-12 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mor and RFC 2892, which is incorporated by reference in Mor and further in view of Ebersole and Friedman (US Patent 5,949,788).

Claim(s) 11, 22: Mor, RFC2892, and Ebersole teach the method of claim 10, 21, but fails to teach

the step of determining includes selecting a node with the highest MAC address. Friedman, however, teaches selecting the node with the highest MAC address (col. 5, lines 38-44). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Mor's, RFC2892's, and Ebersole's method of initializing a network node in a ring with Friedman's step of selecting the highest MAC address, for the advantage of efficiently selecting a suitable addressed node to fulfill a selection criteria (col. 5, lines 38-44).

Claim(s) 12, 23: Mor, RFC2892, and Ebersole teach the method of claims 10, 21 but fails to teach

the step of determining includes selecting a node with the lowest MAC address.

Friedman, however, teaches selecting the node with the lowest MAC address (col. 5, lines 38-44). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Mor's, RFC2892's, and Ebersole's method of initializing a network node in a ring with Friedman's step of selecting the lowest MAC address, for the advantage of efficiently selecting a suitable addressed node to fulfill a selection criteria (col. 5, lines 38-44).

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tan Lien whose telephone number is (703) 305-6018. The examiner can normally be reached on Monday-Thursday from 8:30am to 6pm. The examiner can also be reached on alternate Fridays.

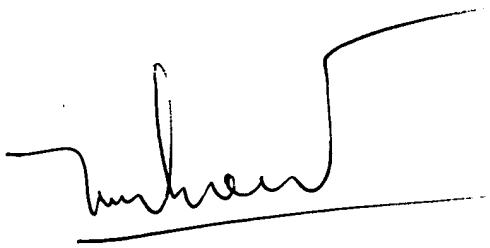
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia, can be reached at (703) 305-4003. The fax phone number for this Group is (703) 305-3718.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [tan.lien@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a

possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.



LE HIEN LUU
PRIMARY EXAMINER